

SECTION 617 - SOIL CONDITIONERS

Reserved

SECTION 618 - SEEDING

618.01 Description This work shall consist of furnishing and applying a seed, and other materials to areas shown on the plans or as authorized by the Resident.

- a. Seeding Method Number 1 shall consist of the application of “Park Mixture”, fertilizer, and cellulose fiber mulch to loamed areas which are expected to be maintained by frequent mowing: i.e. private lawns.
- b. Seeding Method Number 2 shall consist of the application of “Roadside Mixture Number 2”, lime, and fertilizer to existing soils or loamed areas which are expected to be maintained by infrequent mowing: i.e. inslopes, ditches, and rural lawns.
- c. Seeding Method Number 3 shall consist of the application of “Roadside Mixture Number 3,” inoculant and lime to existing soils, erosion control mix, or riprap areas which are not expected to be mowed: i.e. backslopes, guardrail areas.
- d. Special Seeding shall consist of the application of a special seed mix and amendments as defined by Special Provision.
- e. Temporary Seeding shall consist of the application of seed to control erosion to slopes and stockpiles that have been disturbed during construction and will be left incomplete for more than 30 days. Seed for Temporary Seeding shall be oats, wheat, rye, or other seed conforming to the requirements of Section 717.03(e).
- f. Crown Vetch Seeding shall consist of the application of seed, inoculant, and lime to areas that will not be mowed: i.e. riprap or erosion control mix.

618.02 Materials Materials shall meet the requirements of the following Sections of Division 700 - Materials:

Fertilizer	717.01
Agricultural Ground Limestone and Liquid Lime	717.02
Seed	717.03

618.03 Rates of Application Application rates are set forth below. One unit is defined as 100 m² [1000 ft²].

- a. The Contractor shall apply agricultural ground limestone at the rate of 15 kg [33 lb] per unit. Liquid lime shall be applied at the rate of 0.25 liters [1 cup] per unit, hydraulic method. Liquid lime shall be one part lime with a minimum of 10 parts water.
- b. The fertilizer application rate for seed establishment shall be 4 kg [9 lb] per unit, Seeding Method 1 and 2 only.
- c. The seed mixture sowing rate for Seeding Method 1 and 2 shall be 1.8 kg [4 lb]/unit.
- d. The seed mixture sowing rate for Seeding Method 3 shall be 1.0 kg [2 lb] per unit.
- e. The Temporary Seed sowing rate shall be 1.5 kg [3 lb] per unit.
- f. The Crown Vetch Seed sowing rate shall be 0.5 kg [1 lb] per unit.

618.04 Time of Initial Seeding The Contractor shall not seed during January, February, or March, or when the ground is frozen or snow covered, or at other times as the Department may direct.

618.05 Applying Fertilizer and Agricultural Ground Limestone - Conventional Method
The Contractor shall apply fertilizer and agricultural ground limestone when the soil is moist and before sowing the seed. The Contractor shall apply these materials to the soil by an approved method capable of maintaining a measured rate of application, thoroughly incorporating materials into the soil to a depth of not less than 25 mm [1 in]. The Contractor shall not apply these materials simultaneously unless using an approved hydraulic method.

618.06 Sowing Seed - Conventional Method The Contractor shall sow seeding materials uniformly at the required rate and mulch seeded areas the same day as sown. The Contractor shall roll lawn areas with a light lawn roller after seeding but before mulch is applied.

618.07 Sowing Seed and Applying Fertilizer and Agricultural Ground Limestone - Hydraulic Method The Contractor may use the hydraulic spray method of sowing seed where approved. The Contractor shall use a commercial machine designed for the hydraulic application of seed, fertilizer, limestone, and mulch in a slurry. The Contractor shall mix seed and added materials with sufficient water in the tank of the machine and keep the slurry thoroughly agitated, so the materials are uniformly mixed and suspended in the water at all times during operation. The Contractor shall uniformly distribute the seed slurry on the designated areas at the required rate. Mulch for Seeding Method Number 1 shall be cellulose fiber mulch as specified in Section 619.04(b).

618.08 Mulching After seeding, the Contractor shall place hay mulch or erosion control blanket unless cellulose fiber mulch is applied with the seed by the hydraulic method. The Contractor shall place Mulch as specified in Section 619 and Erosion Control Blankets as specified in Section 613 . Where hay mulch has been previously applied for erosion control and there is adequate hay mulch still present on the area at the time of seeding, the Department may direct the Contractor to seed over the hay mulch.

618.09 Construction Method

a. Seeding Method Numbers 1 and 2

1. After the loamed or unloamed areas to be seeded have been brought to grade, the Contractor shall scarify all ground not sufficiently loose and friable to provide bedding for the seed to a depth of at least 50 mm [2 in] immediately before seeding or mulching. The Contractor shall remove all stones over 100 mm [4 in] in the greatest dimension, tree roots, and refuse and dispose of as directed by the Department. The surface shall be a uniform grade but not smooth.
2. The Contractor shall apply fertilizer and agricultural ground limestone to the prepared areas as specified in Sections 618.05 and 618.07.
3. The Contractor shall sow the seed as specified in Sections 618.06 and 618.07.

4. The Contractor shall apply mulch as specified in Section 618.08. Cellulose fiber mulch only shall be applied with Method 1, and may be used with Method 2.

b. Temporary Seeding

1. The Contractor shall apply agricultural ground limestone to the prepared areas as specified in Sections 618.05 and 618.07.
2. The Contractor shall sow seed onto existing ground as specified in Sections 618.06 and 618.07.
3. The Contractor shall apply mulch as specified in Section 618.08.

c. Seeding Method 3 and Crown Vetch Seeding

1. The Contractor may place seed and limestone directly over existing ground without site preparation.
2. The Contractor shall apply agricultural ground limestone to the areas as specified in Section 618.07.
3. The Contractor shall sow seed as specified in Section 618.07.
4. The Contractor shall apply mulch as specified in Section 618.07. The Contractor shall not apply mulch if seeding riprap or erosion control mix.

618.10 Maintenance and Acceptance The Department will accept areas seeded with Seeding Method 1 or 2 upon attainment of a reasonably thick uniform stand of permanent grass species with at least 90 percent coverage, free from sizable thin or bare spots. The Contractor shall perform final reseeding as follows: Upon completion of all other work on the project, seeded areas that have not been accepted shall, within 60 calendar days, meet the 90 percent coverage requirement or be reseeded a final time. Final reseeding shall be done at the end of the 60-day period or at any time within the 60 days, as directed by the Department. The Contractor will not be allowed to perform final reseeding between September 15th and April 15th, and the Department will not count this time as

part of the 60-day period. All reseeding shall comply with Sections 618.03 through 618.09.

The Department will accept areas sown with Method 3, Temporary Seed, Special Seed, or Crown Vetch at the time that areas are satisfactorily completed.

The Contractor shall maintain and protect all seeded areas until acceptance.

618.101 Applied Water The Contractor shall use Applied Water to aid in the establishment of newly planted shrubs, trees, seedlings, and sod during an abnormal drought that requires excessive watering beyond what is expected with each planting in accordance with Sections 621.0024 and 616.05. Applied Water shall be authorized by the Department. The Contractor shall use Applied Water from approved sources in a manner to allow the soil to absorb the water without runoff.

618.11 Method of Measurement The Department will measure Seeding for payment by the area of seeded surface in Units of 100 m² [1000 ft²] along the slope of the ground. The quantity of seeding measured for payment will be the number of units shown in the Schedule of Items in the contract. This quantity will be considered final, and no adjustments will be made, except when the actual area seeded varies from the number of units shown in the Schedule of Items by more than 15 percent.

The Department will measure Applied Water for payment by the cubic meter [gallon] in calibrated tanks or by accurate water meters. Delivery slips, as specified in Section 108.1.3-f will be required. Watering deemed necessary by the Contractor to assure a growth of grass under the guarantee provisions of Section 618.10, Maintenance and Acceptance, will not be measured for payment.

618.12 Basis of Payment The Department will pay for the accepted quantities of seeding at the Contract price per Unit for the method specified, which price shall be full compensation for furnishing and spreading seed, limestone, fertilizer, and inoculant. The price shall also include any reseeding, watering, and maintenance necessary to meet the requirements of Section 618.10, Maintenance and Acceptance.

When fertilizer is omitted from Seeding Method Number 1 or Number 2 at the direction of the Department, payment for such seeding will be 85 percent of the Contract price for the appropriate item.

When authorized, the Department will pay for Applied Water at the Contract price per cubic meter [gallon].

When seeding is completed, amounts due for these items will be payable.

The Department will pay for Loam and Mulch as provided in Section 615 - Loam and Section 619 - Mulch.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
618.1301 Seeding Method Number 1, Plan Quantity	Unit
618.1401 Seeding Method Number 2, Plan Quantity	Unit
618.1411 Seeding Method Number 3, Plan Quantity	Unit
618.143 Special Seeding	Unit
618.15 Temporary Seeding	Unit
618.16 Crown Vetch Seeding	Unit
618.25 Applied Water [gallon]	Cubic Meter

SECTION 619 - MULCH

619.01 Description This work shall consist of furnishing and applying hay, straw, bark, erosion control mix, or cellulose fiber for covering slopes and other areas with a mulch as shown on the plans or authorized.

619.02 Mulch Material shall conform to the requirements specified in the following Sections of Division 700 - Materials:

Mulch	717.04
Mulch Binder	717.05

619.03 General Cellulose fiber mulch shall be used with Seeding Method 1 and approved areas, which may include, but are not limited to, lawns adjacent to developed